

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

Listing of Claims:

Claims 1-39 (Cancelled).

Claim 40 (Currently Amended): An orthogonal frequency division multiplex (OFDM) telecommunication device comprising:

a plurality of analog devices ~~together configured to sequentially perform and adapted for sequentially performing~~ an analog multiplication and ~~then an analog convolution after the analog multiplication~~ on an analog signal,

wherein said analog multiplication of said analog signal is configured to provide ~~provides~~ down-conversion of an RF analog signal at a radio frequency into an IF analog signal at an intermediate frequency, ~~and~~

~~said OFDM telecommunication device is configured and adapted to feed said IF analog signal to an A/D converter via zero or more processing stages, without further down-conversion~~

wherein said plurality of analog devices are configured to perform said multiplication and said convolution as operations of a Fourier transformation for an OFDM demodulation.

Claim 41 (Previously Presented): The OFDM telecommunication device of claim 40, wherein said telecommunication device is an orthogonal frequency division multiplex receiver.

Claim 42 (Cancelled).

Claim 43 (Currently Amended): The OFDM telecommunication device of claim 40 ~~claim 42~~, wherein said plurality of analog devices are ~~together~~ configured to perform and adapted for performing a further analog multiplication for said Fourier transformation on said analog signal.

Claim 44 (Currently Amended): An orthogonal frequency division multiplex (OFDM) The OFDM telecommunication device of claim 40 comprising:
a plurality of analog devices configured to sequentially perform an analog multiplication and an analog convolution after the analog multiplication on an analog signal,
wherein said analog multiplication of said analog signal is configured to provide down-conversion of an RF analog signal at a radio frequency into an IF analog signal at an intermediate frequency,

~~wherein~~ said telecommunication device is an orthogonal frequency division multiplex transceiver, and

said plurality of analog devices are configured to perform and adapted for performing, in either order, a further analog multiplication and a further analog convolution on a further analog signal as operations of for an inverse Fourier transformation for an OFDM modulation.

Claim 45 (Currently Amended): An orthogonal frequency division multiplex (OFDM) The OFDM telecommunication device of claim 40 comprising:
a plurality of analog devices configured to sequentially perform an analog multiplication and an analog convolution after the analog multiplication on an analog signal,

wherein said analog multiplication of said analog signal is configured to provide down-conversion of an RF analog signal at a radio frequency into an IF analog signal at an intermediate frequency,

~~wherein~~ said telecommunication device is an orthogonal frequency division multiplex transceiver, ~~and~~

said plurality of analog device are configured to perform ~~and adapted for performing~~, in either order, a second analog multiplication and a second analog convolution on a second analog signal, and

~~wherein~~ said second analog multiplication of said second analog signal are configured to provide ~~provides~~ up-conversion of an IF analog signal at an intermediate frequency into an RF analog signal at a radio frequency.

Claim 46 (Currently Amended): An orthogonal frequency division multiplex (OFDM) telecommunication device comprising:

a first analog device; ~~and~~

a second analog device, and

a third analog device,

wherein said first analog device is configured to receive ~~and adapted for receiving~~ an RF analog signal at a radio frequency, configured to perform ~~performing~~ an analog multiplication as well as an RF/IF down-conversion thereon and ~~outputting~~ configured to output a resultant IF analog signal at an intermediate frequency to said second analog device,

said second analog device is configured to receive ~~and adapted for receiving~~ said IF analog signal and configured to perform ~~for performing~~ an analog convolution thereon to provide an analog output signal, and

~~said OFDM telecommunication device is configured and adapted to feed said analog output signal to an A/D converter via zero or more processing stages, without further down-conversion~~

said third analog device is configured to receive, as an output signal, said analog output signal from said second analog device and configured to perform an analog multiplication thereon,

wherein said first, second, and third analog devices are configured to perform said multiplication and said convolution as operations of a Fourier transformation for an OFDM demodulation.

Claim 47 (Previously Presented): The OFDM telecommunication device of claim 46, wherein said telecommunication device is an orthogonal frequency division multiplex receiver.

Claim 48 (Cancelled).

Claim 49 (Currently Amended): The OFDM telecommunication device of claim 46, further comprising:

an analog-to-digital converter configured to receive ~~and adapted for receiving~~, as an analog input signal, said analog output signal from said second analog device and configured to convert ~~for converting~~ said analog input signal into a corresponding digital output signal.

Claim 50 (Currently Amended): An orthogonal frequency division multiplex (OFDM) ~~The OFDM telecommunication device of claim 49, further comprising:~~
a first analog device;

a second analog device; and

a third analog device,

wherein said first analog device is configured to receive an RF analog signal at a radio frequency, configured to perform an analog multiplication as well as an RF/IF down-conversion thereon and configured to output a resultant IF analog signal at an intermediate frequency to said second analog device,

said second analog device is configured to receive said IF analog signal and configured to perform an analog convolution thereon to provide an analog output signal, further comprising,

an analog-to-digital converter configured to receive, as an analog input signal, said analog output signal from said second analog device and configured to convert said analog input signal into a corresponding digital output signal, and

a digital device configured to receive ~~and adapted for receiving~~ said digital output signal and configured to perform ~~for performing~~ a digital multiplication thereon,

wherein said first and second analog devices and said digital device are configured to perform ~~and adapted for performing~~ said multiplication and said convolution as operations of ~~for~~ a Fourier transformation for an OFDM demodulation.

Claim 51 (Currently Amended): The OFDM telecommunication device of claim 46, further comprising:

an antenna; and

an amplification and pre-processing circuit configured ~~and adapted~~ to feed an OFDM signal received by said antenna to said first analog device as said RF analog signal.

Claim 52 (Currently Amended): An orthogonal frequency division multiplex (OFDM) The OFDM telecommunication device of claim 46, comprising:

a first analog device;

a second analog device, and

a third analog device,

wherein said first analog device is configured to receive an RF analog signal at a radio frequency, configured to perform an analog multiplication as well as an RF/IF down-conversion thereon and outputting a resultant IF analog signal at an intermediate frequency to said second analog device,

said second analog device is configured to receive said IF analog signal and configured to perform an analog convolution thereon to provide an analog output signal,

~~wherein~~ said telecommunication device is an orthogonal frequency division multiplex transceiver, and

said first and second analog devices are configured to perform ~~and adapted for performing~~ said multiplication and said convolution as operations of ~~for~~ an inverse Fourier transformation for an OFDM modulation.

Claim 53 (Currently Amended): The OFDM telecommunication device of claim 46,

wherein said telecommunication device is an orthogonal frequency division multiplex transceiver,

said second analog device is configured to receive ~~and adapted for receiving~~ an IF analog input signal at an intermediate frequency and configured to perform ~~for performing~~ an analog convolution thereon to provide an analog IF output signal, and

said first analog device is configured to receive ~~and adapted for receiving~~ said analog IF output signal, configured to perform ~~performing~~ an analog multiplication as well as an

IF/RF upconversion thereon and configured to output ~~outputting~~ a resultant RF analog signal at a radio frequency.

Claim 54 (Currently Amended): An orthogonal frequency division multiplex (OFDM) telecommunication device comprising:

a plurality of analog devices,

wherein said plurality of analog devices are ~~together~~ configured to perform and ~~adapted for performing~~, in either order, an analog multiplication and an analog convolution on an analog signal, and

said plurality of analog devices are configured to perform and ~~adapted for performing~~ said multiplication and said convolution as operations of ~~for~~ an inverse Fourier transformation for an OFDM modulation.

Claim 55 (Previously Presented): The OFDM telecommunication device of claim 54, wherein said telecommunication device is an orthogonal frequency division multiplex transmitter.

Claim 56 (Currently Amended): The OFDM telecommunication device of claim 54, wherein said plurality of analog devices are configured to provide an up-conversion of an IF analog signal at an intermediate frequency to an RF analog signal at a radio frequency and ~~adapted such that~~ by said multiplication of said analog signal ~~provides up-conversion of an IF analog signal at an intermediate frequency to an RF analog signal at a radio frequency.~~

Claim 57 (Currently Amended): The OFDM telecommunication device of claim 54, wherein said plurality of analog devices are ~~together~~ configured to perform and

~~adapted for performing~~ a further analog multiplication for said inverse Fourier transformation on said analog signal.

Claim 58 (Currently Amended): The OFDM telecommunication device of claim 54, wherein said telecommunication device is an orthogonal frequency division multiplex transceiver, and

said plurality of analog devices are configured to perform ~~and adapted for performing~~ said multiplication and said convolution as operations of ~~for~~ a Fourier transformation for an OFDM demodulation.

Claim 59 (Currently Amended): An orthogonal frequency division multiplex (OFDM) telecommunication device comprising:

a plurality of analog devices ~~together~~ configured to ~~and adapted for~~ sequentially perform ~~performing~~, in either order, an analog multiplication and an analog convolution on an analog signal,

wherein said multiplication of said analog signal is configured to provide ~~provides~~ up-conversion of an IF analog signal at an intermediate frequency to an RF analog signal at a radio frequency,

said telecommunication device is an orthogonal frequency division multiplex transceiver, and

said plurality of analog devices are configured to perform, in either order, a further analog multiplication and a further analog convolution on a further analog signal as operations of a Fourier transformation for an OFDM demodulation.

Claim 60 (Previously Presented): The OFDM telecommunication device of claim 59,

wherein said telecommunication device is an orthogonal frequency division multiplex transmitter.

Claim 61 (Cancelled).

Claim 62 (Currently Amended): An orthogonal frequency division multiplex (OFDM) telecommunication device comprising:

a first analog device; and

a second analog device,

wherein said first analog device is configured to receive and ~~adapted for receiving~~ an analog signal and performing an analog convolution thereon to provide an intermediate analog signal,

said second analog device is configured to receive and ~~adapted for receiving~~ said intermediate analog signal and configured to perform ~~for performing~~ a multiplication thereon to provide an analog output signal, and

said first and second analog devices are configured to perform and ~~adapted for performing~~ said multiplication and said convolution as operations of ~~for~~ an inverse Fourier transformation for an OFDM modulation.

Claim 63 (Previously Presented): The OFDM telecommunication device of claim 62, wherein said telecommunication device is an orthogonal frequency division multiplex transmitter.

Claim 64 (Currently Amended): The OFDM telecommunication device of claim 62,

wherein said intermediate analog signal is an IF analog signal at an intermediate frequency and said multiplication of said intermediate analog signal is configured to provide ~~provides~~ up-conversion thereof to an RF analog signal at a radio frequency.

Claim 65 (Currently Amended): The OFDM telecommunication device of claim 62, further comprising:

a third analog device situated upstream on a signal path comprising said first and second analog devices said third analog device being configured to perform ~~and adapted for performing~~ an analog multiplication on an analog signal,

wherein said multiplications and said convolution of said first, second, and third analog devices are configured to ~~and adapted such that said multiplications and said convolution~~ provide said inverse Fourier transformation for an OFDM modulation.

Claim 66 (Currently Amended): The OFDM telecommunication device of claim 62, further comprising:

a digital-to-analog converter configured to convert ~~and adapted for converting~~ a digital input signal into a corresponding analog output signal and configured to output ~~for outputting~~ said analog output signal to said first analog device as said analog signal.

Claim 67 (Currently Amended): The OFDM telecommunication device of claim 66, further comprising:

a digital device configured to perform ~~and adapted for performing~~ a digital multiplication on a digital signal and configured to output ~~for outputting~~ a resultant digital signal to said digital-to-analog converter as said digital input signal,

wherein said multiplications and said convolution of first and second analog devices and said digital device are configured to ~~and adapted such that said multiplications and said convolution~~ provide said inverse Fourier transformations for an OFDM modulation.

Claim 68 (Currently Amended): The OFDM telecommunication device of claim 62, wherein said telecommunication device is an orthogonal frequency division multiplex transceiver, and

said first and second analog devices are configured to perform ~~and adapted for performing~~ said multiplication and said convolution as operations of ~~for~~ a Fourier transformation for an OFDM demodulation.

Claim 69 (Currently Amended): An orthogonal frequency division multiplex (OFDM) telecommunication device comprising:

a first analog device; and

a second analog device,

wherein said first analog device is configured to receive ~~and adapted for receiving~~ an IF analog signal at an intermediate frequency and configured to perform ~~performing~~ an analog convolution thereon to provide an intermediate IF analog signal,

said second analog device is configured to receive ~~and adapted for receiving~~ said intermediate IF analog signal, and configured to perform ~~for performing~~ a multiplication as well as an IF/RF up-conversion thereon and outputting a resultant RF analog signal at a radio frequency,

said telecommunication device is an orthogonal frequency division multiplex transceiver, and

said first and second analog devices are configured to perform, in either order, a further analog multiplication and a further analog convolution on a further analog signal as operations of a Fourier transformation for an OFDM demodulation.

Claim 70 (Previously Presented): The OFDM telecommunication device of claim 69, wherein said telecommunication device is an orthogonal frequency division multiplex transmitter.

Claim 71 (Cancelled).

Claim 72 (New): The OFDM telecommunication device according to claim 40, wherein said OFDM telecommunication device further includes:
a processing unit configured to feed said IF analog signal to an A/D converter via at least one analog processing stage, without further down-conversion.

Claim 73 (New): The OFDM telecommunication device according to claim 46, wherein said OFDM telecommunication device further includes:
a processing unit configured to feed said IF analog signal to an A/D converter via at least one analog processing stage, without further down-conversion.

Claim 74 (New): The OFDM telecommunication device according to claim 50, wherein said OFDM telecommunication device further includes:
a processing unit configured to feed said IF analog signal to an A/D converter via at least one analog processing stage, without further down-conversion.

Claim 75 (New): The OFDM telecommunication device according to claim 52,
wherein said OFDM telecommunication device further includes:

a processing unit configured to feed said IF analog signal to an A/D converter via at
least one analog processing stage, without further down-conversion.